AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

Claim 1 (Cancelled).

2. (Currently Amended) The power converter as set forth in claim ~~1~~ 20, wherein each of said polyphase self-excited rectifier ~~circuit~~ circuits includes mutually parallel-connected phase modules corresponding in number to the number of phases of ~~said~~ the first polyphase AC power supply, and each of said single-phase self-excited inverter ~~circuit~~ circuits includes two phase modules.

3. (Currently Amended) The power converter as set forth in claim 2, wherein each of said phase ~~module~~ modules includes self-arc-extinguishing semiconductor devices.

4. (Currently Amended) The power converter as set forth in claim 2, wherein each of said phase modules of said single-phase self-excited inverter ~~circuit have~~ circuits has a current rating greater than that of said phase modules of said polyphase self-excited rectifier ~~circuit~~ circuits.

5. (Currently Amended) The power converter as set forth in claim ~~1~~ 20, wherein each of said DC link ~~circuit~~ circuits includes a filter capacitor having opposite terminals charged at different potentials, and each of said single-phase self-excited inverter ~~circuit~~ circuits selectively outputs one of the potentials in a single phase.

6. (Currently Amended) The power converter as set forth in claim ~~1~~ 9, wherein each of said DC link ~~circuit~~ circuits includes filter capacitors connected in series with one another and having three terminals charged at different potentials, and each of said single-

phase self-excited inverter ~~circuit~~ circuits selectively outputs one of the potentials in a single phase.

Claims 7 and 8 (Cancelled).

9. (Currently Amended) The power converter as set forth in claim ~~6~~ 21, wherein ~~said input transformer group includes input transformers corresponding in number to the number of phases of said polyphase AC load,~~ each of said input transformers ~~having one primary winding and at least one pair~~ includes a first set of secondary windings ~~comprising~~ having a star connection and a second set of second set of secondary windings having a delta connection, and each of said polyphase self-excited rectifier ~~circuit~~ circuits of said power cells includes two polyphase diode rectifier circuits which are connected in parallel to said filter capacitors, respectively, of said DC link ~~circuit~~ circuits, and connected ~~with~~ to said first set of secondary windings having the star connection and connected to said second set of secondary windings having the delta connection, respectively~~, of said paired secondary windings~~.

10. (Currently Amended) The power converter as set forth in claim ~~6~~ 20, wherein ~~said input transformer group includes one input transformer having one primary winding and a plurality of pairs~~ each set of secondary windings includes a first group of secondary windings corresponding in number to the phases of ~~said first~~ the polyphase AC load~~, each pair of said secondary windings comprising~~ and having a star connection and a second group of secondary windings corresponding in number to the phases of the polyphase AC load and having a delta connection, and each of said polyphase self-excited rectifier ~~circuit~~ circuits of said power cells includes two polyphase diode rectifier circuits which are connected in parallel to said filter capacitors, respectively, of said DC link ~~circuit~~ circuits, and connected ~~with~~ to said first group of said secondary windings having the star connection and connected to said set of secondary windings having the delta connection, respectively~~, of said paired secondary windings~~.

11. (Currently Amended) The power converter as set forth in claim ~~1~~ 20, wherein said at least one power unit has a passable input capacity different from that of others of said power units.

12. (Currently Amended) The power converter as set forth in claim ~~1~~ 20, wherein said at least one power unit has a passable output capacity different from that of others of said power units.

13. (Currently Amended) The power converter as set forth in claim ~~1~~ 20, wherein said power units arranged at opposite ends of the cascade connection are connected with second and third~~,~~ polyphase AC power supplies~~, other than said first polyphase AC power supply,~~ so that electric power is input from ~~said~~ the first polyphase AC power supply to said power units and output to ~~said~~ the second and third polyphase AC power supplies~~, or the electric power from said second and third polyphase AC power supplies is reversely supplied to said first polyphase AC power supply~~.

14. (Currently Amended) The power converter as set forth in claim ~~1~~ 20, wherein said plurality of power units are divided into a plurality of groups of power units, and, in each group of power units, mutually adjacent power units in each phase are sequentially cascaded in series with one another, and one of said power units at a first end of the cascade connection is connected ~~with said~~ to the polyphase AC load, and another one of said power units at a second end of the cascade connection is connected ~~with~~ to said neutral point~~, or said power units at the opposite ends are respectively connected with second and third polyphase AC power supplies, other than said first polyphase AC power supply~~.

15. (Currently Amended) The power converter as set forth in claim ~~1~~ 20, wherein each of said ~~power units includes a plurality of power cells, each~~ power ~~cell having~~ cells includes a phase module, and a filter capacitor in said DC link circuit includes ~~a filter capacitor having~~ opposite terminals charged at different potentials, said phase module

including a plurality of direct current buses at different potentials, which are connected ~~with~~ to said filter capacitor, and a cooling header, which is arranged in parallel to said direct current buses for guiding a cooling medium to flow therethrough.

16. (Currently Amended) The power converter as set forth in claim 5, wherein each ~~of said power units includes a plurality of power cells, each~~ of said power ~~cell having~~ cells includes a phase module, and, when an abnormality occurs in said phase module, said single phase self-excited inverter circuit forcedly fixes switching state of said phase module to inhibit an electric current from flowing into said filter capacitor of said DC link circuit.

17. (Currently Amended) The power converter as set forth in claim ~~1~~ 20, wherein said first polyphase AC power supply includes a turbogenerator group including a plurality of turbogenerators, and ~~said~~ the polyphase AC load comprises an electric motor for driving a compressor.

18. (Currently Amended) The power converter as set forth in claim ~~1~~ 20, wherein each of said DC link ~~circuit~~ circuits includes a filter capacitor having opposite terminals charged at different potentials, and ~~the poly-phase~~ each of said polyphase self-excited rectifier ~~circuit~~ circuits adjusts the input power factor thereof so that the potential of the opposite terminals can be controlled.

19. (Currently Amended) The power converter as set forth in claim ~~1~~ 20, wherein each of said DC link ~~circuit~~ circuits includes filter capacitors connected in series with one another and having three terminals charged at different potentials, and ~~the poly-phase~~ each of said polyphase self-excited rectifier ~~circuit~~ circuits adjusts the input power factor thereof so that the potentials of the three terminals can be controlled.

20. (New) A power converter comprising:

a plurality of interconnected power units, mutually adjacent power units being

sequentially cascaded in series with one another, with one of said power units at a first end of a cascade connection being connected with a polyphase AC load, another of said power units at a second end of the cascade connection being connected with a neutral point, each of said power units including

an input transformer group including a single input transformer having a primary winding connected to each of the phases of a first polyphase AC power supply and a plurality of sets of secondary windings, each set of secondary windings including windings equal in number to the phases of a polyphase AC load supplied with power by said power converter, and

a plurality of power cells equal in number to the number of phases of the .polyphase AC load, each power cell being connected to a respective set of said secondary windings of said input transformer group, each power cell including

a polyphase self-excited rectifier circuit connected to the respective set of said secondary windings,

a single-phase self-excited inverter circuit, and

a DC link circuit connecting said single-phase self-excited inverter circuit to said polyphase self-excited rectifier circuit to generate a single-phase power output, whereby electric power input from the first polyphase AC power supply to said power units is output from said power cells to the polyphase AC load.

21. (New) A power converter comprising:

a plurality of interconnected power units, mutually adjacent power units being sequentially cascaded in series with one another, with one of said power units at a first end of a cascade connection being connected with a polyphase AC load, another of said power units at a second end of the cascade connection being connected with a neutral point, each of said power units including

an input transformer group including transformers equal in number to the phases of the polyphase AC power supply, each input transformer having a primary winding connected to each of the phases of the polyphase AC power supply and a secondary winding having phases equal in number to the phases of a polyphase AC load

supplied with power by said power converter, and

a plurality of power cells equal in number to the number of phases of the .polyphase AC load, each power cell being connected to said secondary windings of a respective one of said input transformers, each power cell including

a polyphase self-excited rectifier circuit connected to said secondary windings of a respective one of said input transformers,

a single-phase self-excited inverter circuit, and

a DC link circuit connecting said single-phase self-excited inverter circuit to said polyphase self-excited rectifier circuit to generate a single-phase power output, whereby electric power input from the polyphase AC power supply to said power units is output from said power cells to the polyphase AC load.

22. (New) The power converter as set forth in claim 10, wherein each of said DC link circuits includes filter capacitors connected in series with one another and having three terminals charged at different potentials, and each of said single-phase self-excited inverter circuits selectively outputs one of the potentials in a single phase.

23. (New) The power converter as set forth in claim 21, wherein each of said power cells includes a phase module and a filter capacitor in said DC link circuit includes opposite terminals charged at different potentials, said phase module including a plurality of direct current buses at different potentials, which are connected to said filter capacitor, and a cooling header, which is arranged in parallel to said direct current buses for guiding a cooling medium to flow therethrough.

24. (New) The power converter as set forth in claim 21, wherein each of said DC link circuits includes a filter capacitor having opposite terminals charged at different potentials, and each of said polyphase self-excited rectifier circuits adjusts the input power factor thereof so that the potential of the opposite terminals can be controlled.

25. (New) The power converter as set forth in claim 21, wherein each of said DC link circuits includes filter capacitors connected in series with one another and having three terminals charged at different potentials, and each of said polyphase self-excited rectifier circuits adjusts the input power factor thereof so that the potentials of the three terminals can be controlled.